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REPORT

OF THE

DIRECTOR-GENERAL OF FORESTS

FOR THE YEAR ENDED

31 MARCH 1979

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DIRECTOR-GENERAL'S REPORT FOR YEAR ENDED 31 MARCH 1979

Minister of Forests,

I have the honour to present my report for the year ended 31 March 1979.

G. M. O'NEILL, Director-General of Forests.

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1. MAJOR ISSUES AND HIGHLIGHTS

INDIGENOUS FOREST POLICY

Policies for the management of indigenous State forests in the Central North Island and on the West Coast were approved by Cabinet in August 1978 following public participation through seminars and subsequent submissions to the Minister of Forests. They form the detailed regional interpretation of the national indigenous policy approved by the Government in 1975.

The Central North Island policy requires a rapid reduction in the amount of native timber cut from State forests with the object of eventually achieving a sustainable level of cut. A moratorium was placed on logging in sensitive wildlife areas, particularly the habitat of the kokako, in the West Taupo forests and the intention was stated of removing all forms of Government price control from native timbers. The policy provides for a progressive reduction in the supply of native logs from Whirinaki State Forest over a 12-year period.

The objectives of the West Coast forest policy include the maintenance of sawmilling throughout the West Coast at a steady level from indigenous and exotic forests. At the same time representative areas of forest and associated native animals and land forms are to be reserved for scientific, educational, and cultural purposes. An Officials' Committee was set up to report to the Minister of Forests by 31 March on the proposed West Coast reserves. The policy required the renegotiation of sales throughout the West Coast and discussions with industry on this aspect were well advanced by the end of the year.

The policies for the West Coast and the Central North Island forests give a clear set of Government objectives within which the Forest Service will produce management plans for further public comment. The likely future of the forests has thus been considerably clarified but it is expected that the policies will continue to be challenged by organisations which consider that they do not go far enough in the direction of preservation or of production.

APPLICATION OF THE INDIGENOUS FOREST POLICY

The reduction in the cut from indigenous State forests in the North Island has resulted in the closure of some mills and a much reduced log supply for others. It has been necessary in a number of cases for the Government to enter into negotiations for compensation where, in the interests of conservation, it has been considered desirable to renegotiate contracts and reduce the cut. Much of this work has been carried out by the Forest Service but in all cases both Treasury and the Crown Law Office have been involved. When all claims for compensation are finalised it will be necessary for the Forest Service to attempt to restore confidence in the department as a producer and seller of raw material. Broken contracts for whatever reason do nothing to establish a base on which co-operation and confidence can be built. If there is to be an industry based on products from our indigenous forests and such an industry is to be equipped to get the best out of the log supply it is imperative that production forest areas are designated as such and that recognition be given to these designations. Very large areas are now protected in reserves and the department has attempted to ensure that all the major forest types are represented in these reserves. Production forests require similar recognition.

The cessation of clear felling in State indigenous forests, apart from limited areas in Westland and some lease areas in the Central North Island, has resulted in a sharp increase in logging costs and a reduction in revenue to the Crown. Recent work has indicated that in Westland at least mortality in the residual stands after completion of the first cut in selection logging has been greater than the calculated increment. It is considered that the replacement of skidders by haulers has gone a long way towards solving these problems, and improved logging methods and layouts should also reduce mortality. Sustained yield production from podocarp forests is not easy but it is possible. Natural regeneration can now be supplemented by nursery stock which has been built up over the last few years to accommodate this programme.

DEVELOPMENT OF INDUSTRY

The thermo-mechanical pulp mill of Winstone Samsung Industries Ltd., commenced running-in trials in October 1978 and was officially opened by the Prime Minister in March 1979. It will be some time before this plant reaches its rated level of production although construction and running-in trials were ahead of schedule. CSR Ltd., of Australia and H. Baigent and Sons Ltd., will commence a feasibility study in 1979 to investigate the possibility of setting up an integrated sawmill and pulp mill in the Nelson area. A substantial volume of wood from State forests will be required to supplement the volume which is available from Baigent's plantations. Various cutting schedules are at present being tested and inventory and increment data updated in order to determine the volume of wood that can be made available for sale. All sales will be by public tender.

It now seems certain that the department will be unable to meet the demand for exotic wood, particularly in areas where large integrated industries are established. If the CSR–Baigent proposal goes ahead there will be no further scope for new large-scale industrial development within the next 5 to 8 years. At that stage the department should be calling for proposals to utilise the large volume of wood which commences coming on stream in the 1990s. Local supply forests in Taranaki and Wairarapa will commence production from clear fellings in the next 2 or 3 years and this could free up additional volumes from the major forest areas for export. In addition, production thinnings from areas planted within the last 15 years could supplement the log supply to some of the larger industries if the cost of log production can be kept at an acceptable level. In a situation where the demand for wood exceeds the supply, access to computer facilities is of great value as a range of cutting schedules and management regimes can be tested quickly thereby ensuring that the forests are producing to their maximum.

UTILISATION OF BEECH IN WESTLAND

If the Westland beech forests are to be utilised to keep existing sawmills operating at economic levels it is necessary to find an outlet for logs which are not suitable for sawing. At present there is an outlet for beech chipwood through the port of Nelson, but there could be difficulties in keeping this chip export trade operating if the CSR-Baigent proposal goes ahead as softwood chips, a major component in the export supply, will be required for the pulp mill. Hardwoods do not make a good furnish for thermo-mechanical pulps and the volume of beech pulpwood available will be determined by the limited production of beech sawlogs which will

be too small to support any of the traditional wood using industries. During the year progress has been made in providing access to future beech management areas and general agreement has been reached with the sawmilling industry as to how this resource should be processed and marketed.

EXOTIC AFFORESTATION

The decline in new planting which took place in 1977 was reversed during the year and it is estimated that the total will be 43 000 ha, an increase of 3000 ha over the previous year. Private plantings increased from 19 700 ha to 22 000 ha and State plantings from 19 800 ha to 21 250 ha. About half of the area of private planting was done under the Forestry Encouragement Loans and Grants Scheme. Additional funds provided for land purchase had a significant effect on the area planted under the special work scheme which increased from 3150 ha in 1977 to 5034 ha in 1978.

RECREATIONAL HUNTING

In terms of the Wild Animal Control Act 1977 the Minister of Forests invited nominations and appointed eight people to the National Advisory Committee on Recreational Hunting. One recreational hunting area has been approved in principle and a number of others are under consideration including those listed in the 1974 Caucus Committee report.

DEER FARMING

Over 400 applications have been received for the licensing of deer farms. The increasing interest in this type of farming results in the main from the high and rising prices being paid for antler velvet. At the end of the last selling season prices as high as $250 per kilogram were being realised. The increasing interest in deer farming has produced a corresponding increase in the capture of live animals to stock the farms. With venison prices stable there is an increased incentive to concentrate on live animal capture. It is estimated that approximately 10 000 wild deer were made available during the year for stocking deer farms. Because of the high prices being paid for live animals helicopter hunting has been intensified which has ensured that wild animal numbers have been kept at very low levels. The value of animals recovered from lands of the Crown is considerable and the question of whether they should be regarded as products of the land and charged for accordingly has been raised. The Forest Service has consistently taken the view that if it were to charge for animals taken it could be accused of farming animals and seeking income rather than ensuring concerted action to reduce the damaging effects of animals on vegetation and soil and water resources. With the circumstances that exist today a re-examination of policies may be warranted.

EXOTIC SAWN TIMBER PRODUCTION

The production of exotic sawn timber is estimated to have decreased by 10–15 percent from the previous year's production of 1 706 000 cubic metres. Although there has been a substantial reduction in domestic demand this has been offset in part by an increase in exports which amounted to 326 000 m^3 in 1978. It is encouraging to note that the provisional figures for the March quarter 1979 show exports of exotic

sawn timber to be nearly 50 percent above the March quarter 1978. One sawmill in Tauranga is now exporting its total production whereas previously it sold on both the domestic and export markets.

MARKETING OF SAWN TIMBER

In common with other producers and processors of sawn timber the department's sawmills suffered a reduction in demand on the domestic market but by increasing export sales was able to maintain production close to the 1977 level. Although Japan and Australia continue to be the major markets for sawn timber exports useful gains have been made in the Middle East and the United States. Possibilities for profitable sales in the United Kingdom and Europe appear to exist particularly for defect-free grades. With second crop and post-1950 stands now coming into production a limited amount of clean timber is being produced. Judiciously used this should enable the department to test the export possibilities for the large volumes which are expected to be available in the next decade. It is important that export markets be developed for a range of sawn timber products. To do this some non-recoverable costs will need to be carried and it will be necessary to send skilled sales staff to areas where there are reasonable prospects of finding markets. There is a multi-million dollar investment in production forests, the benefits of which cannot be fully realised if essential product promotion and market development is not followed through.

DEVELOPMENTS IN LOG EXPORTS

May 1978 saw the final shipment of logs from the 1975 Canterbury windthrow, completing a salvage operation in which 757 454 m^3 of logs were exported earning $22.6 million in overseas funds. Windthrown logs were sold to Japan, Korea, and China with the final shipment going to Korea.

The log trade from Port Chalmers was in jeopardy during the year and the private companies concerned sought Forest Service assistance. Because of the large volumes sold on a continuing basis through other ports, the department was able to use its existing contracts to assist these companies with sales to China and Korea. Korea is now purchasing all log supplies at Port Chalmers, and has increased its total log purchases from New Zealand by 32 percent over the previous year ending 31 March 1978.

During 1978 Chile emerged as a major supplier to radiata pine markets in Japan and Korea. The Forest Service initiated an exchange of information between New Zealand and Chile on the volumes and quality of logs available from each country with the objective of rationalising and jointly promoting the use of radiata pine in Japan.

In September 1978 the Director of Marketing travelled to Peking and signed an agreement for the sale of logs to China. It is hoped that the agreement will be renewed in 1979 and lead to a regular trade with the People's Republic of China.

2. PRODUCTION FORESTRY

MANAGEMENT

Acquisition of Land—While it has been possible to purchase significant areas of land for exotic afforestation in South Canterbury, Marlborough, and Northland, considerable difficulty has been experienced in finding suitable additional land in Southland and the east coast of the North Island. Both of these areas have relatively high programmes of new planting with rapidly diminishing land banks. The possibility of leasing Maori land will go some way towards alleviating the situation on the east coast but there appears to be no ready solution in Southland.

Two purchases of indigenous forest land containing both mature and regenerating kauri were made during the year in terms of the Government's Kauri Management Policy. One block on the Kopu/Hikuai State highway, provides valuable frontage and access to the Coromandel State Forest Park from the highway.

A change in Government policy for the east coast of the North Island involving the abandonment of the "Blue Line" concept as recommended in the Taylor Report will affect land purchase procedures in that region. Prior to the change the Forest Service had been buying properties behind the "Blue Line" in the critical headwaters area of the major east coast rivers for blanket exotic afforestation. In future any proposed acquisitions will require a Land Use Committee report and recommendations following the practice in use throughout New Zealand where each proposed acquisition is examined on its merits and future land use decisions made on an individual property basis.

Indigenous Forest Management—The progressive implementation of the Government's State indigenous forest management policy can be seen in the continual reduction in wood production from these forests. From the peak level of production in the year ended 31 March 1975, when about 600 000 m^3 of wood was extracted from indigenous State forests, production has already declined by about half. As further short- and long-term contracts expire the production level may be expected to further decline as production forests are managed more and more in accordance with sustainable yield objectives. It is expected that in the mid 1980s total production from State forests of indigenous wood will be reduced to about 50 000 m^3 a year.

Conversion of State indigenous forest to exotic plantations has now generally ceased, except on the west coast of the South Island and on areas of State forest leased to private interests prior to the formulation of the policy. The emphasis in indigenous forest management is now on the regeneration of the forests and their perpetuation as such, employing natural or artificial means to ensure replacement. To this end nursery operations have been geared to the indigenous policy, and some two million native seedlings were available as at 31 March 1979 for re-establishment and cut-over enrichment. Nursery production is expected to continue to expand to meet operational requirements in this field.

West Coast Forest Policy—Following the West Coast management proposals discussions have been held with industry to determine the distribution and available yield of indigenous timber in the Buller, North Westland, and Inangahua areas. Negotiations with industry on the utilisation of these resources is at an advanced stage.

Forest Diseases—As was anticipated, the control spraying programme for *Dothistroma pini*, pine needle blight, enjoyed another marked reduction following exceptionally dry weather conditions. The total area sprayed during 1978–79 was just over 6000 ha, constituting a 91 percent decrease in the previous year's programme. However, a significant increase in the incidence of *Dothistroma* is apparent on the west coast of the South Island where over 3600 ha were sprayed.

As more information is gathered each year relating meteorological conditions to the extent of *Dothistroma* infection it becomes possible to predict infection levels with greater confidence. Based on rainfall patterns during late 1978 and early 1979, it is expected that the 1979–80 spraying programme will show an increase. Accordingly, a close watch will be kept on the build-up of infection during the coming season so that the magnitude of this increase may be detected as soon as possible and may be allowed for in the 1979–80 control spraying programme.

Ruahine Range Control Scheme—Concern about the widespread erosion in the Ruahine range and its possible effects on downstream river systems led in 1975 to the formation of the Ruahine Range Control Scheme Committee, a sub-committee of the Soil Conservation and Rivers Control Council. Its task was to review the situation and recommend a co-ordinated approach to research and management in the range and rivers draining it. The scheme leader was a senior forester in the Forest Service assisted by a liaison officer from the Ministry of Works and Development. A comprehensive report was completed and published during the year, and the recommendations contained in it are aimed at improving knowledge and management of the range, which is largely included in the Ruahine State Forest Park.

Workshop on Special Purpose Timber Species—One significant development from the indigenous forest policy announced in 1977 has been the substantial decline in the level of production of indigenous timbers suitable for special end uses and this decline is expected to continue. Concurrently there has been increasing interest in the establishment of additional forest resources for production of timbers to satisfy particular quality requirements of demanding end-uses. The 3-day workshop on special purpose timbers held at Auckland in March was therefore a most timely review of the role of alternative exotic species in New Zealand.

The workshop was well attended by representatives from many timber-using industries and private growers as well as departmental officers. A consensus emerged that there is a need for forest resources to produce woods for various special uses including furniture and cabinet work, turnery, handles, exterior joinery, decorative veneer and plywood, flooring, poles, and panelling. Although information was presented on the wood quality requirements for each of these uses, long-term estimates of quantity requirements could only be calculated broadly because of the dependence on future indigenous timber supplies and their end uses; also the total size of the domestic market, the potential for export, and the minimum economic size for industrial processing units.

The extent of the existing exotic resources of special purpose timbers indicates considerable uncertainty in future supplies due to inadequate information on the species differentiation of stands, their quality, the

market intentions of private owners, and the location of the existing resources in relation to present processing industries.

Consideration was given to the role of imported timbers, and while it was recognised that these timbers do have a place in New Zealand markets, it was thought that quality woods will continue to increase in price as supplies diminish and/or quality premiums increase. The aim should be to grow at least some of New Zealand's requirements.

Particular attention was given to the choice of exotic species able to fulfil the quality requirements and which had adequate silvicultural information available. It was agreed that concentration should be on the following species in order of priority: ash type eucalypts, cypresses (particularly *C. macrocarpa* and *C. luscitanica*), other eucalypts (particularly *E. saligna* and *E. botryoides*), black walnut, and blackwood. Availability of suitable land for growing these species is essential and the common attitude that forestry must be relegated to land unsuitable for agriculture was considered inappropriate in relation to special purpose timber production.

WORK PROGRAMME IN STATE EXOTIC FORESTS

The following operations were carried out in State exotic forests in 1978–79. All figures are provisional.

	Forest Service (Basic) (hectares)	*Temporary Employment Scheme* (hectares)	*Total* (hectares)
New planting	16 500	5 184 *(24%)	21 684
Restocking	8 682	1 372 (14%)	10 054
Pruning	27 825	2 854 (9%)	30 679
Thinning	30 116	4 209 (12%)	34 325
Clear felling	—	—	6 669

*Percentage of total done by special employment.

FOREST EXTENSION

Achievement—The overall new planting achievement of 7211 ha was down slightly for the second consecutive year and equals only 72 percent of the Cabinet approved target of 10 000 ha. This seems to indicate that current incentives are not creating an excess of demand. Major falls were recorded in Auckland and Nelson Conservancies with marked increases in Wellington and Southland.

The marked increase in tending from 1723 ha in the 1976–77 year to 5136 ha this year reflects the big increase in planting in the early 1970s and has been the main cause of the increase in work load of extension officers. It also indicates an increased acceptance of the value of tending in good forest management.

The two dominant factors in the drop in new planting would be the general lack of long-term investment finance by the private forest grower and the restrictive ordinances against forestry being introduced by many local authorities in district planning schemes.

Local Authorities—A proposal to have the local authority loan limit increased was declined by Cabinet during the year. Inflation has meant that the present loan can cover only one half of the costs of growing a crop of trees. Consequently it was necessary to advise all local authorities that

unless finance could be obtained from other sources no new planting should be undertaken. As a result, only one new loan was approved during the year.

Co-operative Forestry—With a forest resource of over 60 000 ha now established by small growers with trees up to 15 years of age, the interest in forestry co-operatives has continued. Legislation to permit forestry co-operatives was passed during the year and two groups are actively working towards the establishment of co-operative companies in their districts.

High Quality and Decorative Timber—With the upsurge in interest by private growers in growing species other than *Pinus radiata*, there is an urgent need for the department to give some direction to growers regarding desirable species and regions best suited to their growth. There is a need also to limit the range of species to a selected few to be concentrated in areas best suited to growth and market potential. The workshop in Auckland during the year assembled very useful information on which a policy can be based in the future.

FOREST PLANNING

In 1976 the Forest Service established the Mensuration Project Team to develop an integrated set of computer software for use in exotic forest mensuration and planning. This team was assembled by seconding scientists, foresters, and computer specialists for a period of 3 years under the direction of a principal forester attached to the Forest Service management directorate. Programmes, developed on the Government's ICL 2980 computer, cover inventory, growth modelling, and both long- and short-term forest modelling.

The team's brief covered the development of programmes which could be used by regional planning staff on remote terminals to the Trentham Computer Centre, the preparation of detailed user manuals, and the training of Forest Service users in the operation of the computer and the use of the software.

The project team dissolved at the end of March 1979 with most of its assigned task having been completed and most of the systems in operational use by conservancy planning staff.

To undertake the maintenance, and to supervise the implementation of the computer systems the department is in the process of establishing the Resource Inventory Section of the Planning Division which will be based in Rotorua to maintain close liaison with specialist Forest Research Institute staff.

These computer systems have significantly increased the capability of the department to explore the consequences of alternative management harvesting and marketing strategies for exotic forests in the process of forestry sector development planning.

Review of Forestry Statistics—A review of forestry statistics, which encompasses the activities of forestry, logging, and first-stage processing of forest products, has been carried out in co-operation with the Departments of Statistics and Trade and Industry. The review committee's report of 48 recommendations was accepted for implementation and approved where appropriate by the Minister of Statistics in

February. Work is now proceeding on actioning the recommendations which when completed will provide users with a comprehensive range of integrated forestry statistics.

COMPENSATION CLAIMS

The policy approved by the Government in August 1978 for the indigenous State forests of West Taupo has the objective of a low level of indigenous timber production with the eventual aim of a sustained yield. The attainment of the policy has had an effect on two companies which were obtaining wood supplies from Pureora State Forest under long-term contracts due to expire in the mid 1980s. The two companies and the matters which are of particular concern to them are Pureora Sawmills Ltd. (the termination of wood supplies at 31 December 1978) and Ellis and Burnand Ltd. (renegotiation of its long-term entitlement, to a reduced cut of 6000 m^3 annual maximum and substitution with exotic sawlogs of a quantity to be negotiated).

Ellis and Burnand Ltd. declined the proposed arrangement of a mixed supply of wood, and as for Pureora Sawmills Ltd., submitted a compensation claim on the Government for failing to honour its existing long-term contract. Discussions with representatives of the companies were subsequently held with the idea of negotiating an acceptable cash compensation settlement. These negotiations have now concluded and reports on the claims and the negotiations are being prepared to enable the Government to decide what formal offer will be made to the two companies.

FIRE CONTROL

With the exception of Westland and Southland, a weather pattern of continuous strong westerly winds, higher temperatures, and lower rainfall and humidity gave rise to a prolonged period of extremely hazardous conditions during January and early February. County fire authorities imposed restrictions on fires in the open and these were generally observed. Publicity on the controls helped to retain fire incidence to a gratifying minimum.

It was necessary to close Hanmer Forest Park to the public during the peak fire hazard period and regional fire emergencies were declared in Hauraki Plains County to deal with a persistent peat fire and in Moutere Hills Rural Fire District when a fire in Tasman Forest was thought likely to spread and endanger homes and orchards.

Orders in Council on 26 February brought both the Forest and Rural Fires Act 1977 and the Forest and Rural Fires Regulations into force on 1 April 1979.

3. ENVIRONMENTAL FORESTRY

General—The Forests Amendment Act 1976 and the Indigenous Forest Policy 1977 provides the basis for a broader concept of forest management for State forest in New Zealand. In particular, the balanced use tenet of the Act increases emphasis on the protective and recreational values of the forest to that of production. With the passing of the Forest and Rural Fires Act 1977 and the Wild Animal Control Act 1977, the framework for more flexible forest management and more rational administration of all Crown-owned forest land was established.

The 1977 Indigenous Forest Policy on recreation proposed four principles for development; strategic location of State forest parks, development complementary with that for other Crown-owned land, regional recreational planning, and liberal rights of entry to State forest land.

Forest Parks—Two new State forest parks, Pureora and Hanmer, were gazetted during the year and gazettal of Raukumara is imminent. Pureora Forest Park is within easy reach of the Auckland, Waikato, and Bay of Plenty urban areas and offers opportunity for complementary recreational development in the popular Taupo-Tongariro region. Balanced use management will highlight indigenous forest management, exotic afforestation, and reservation for ecological purposes as well as recreation. Hanmer Forest Park was the second predominantly exotic State forest park to be gazetted, and is already an established and popular holiday location. The contrasting character of these two forests highlights the flexibility of forest management afforded by the Forests Amendment Act 1976.

As part of the West Coast forest policy, establishment of a forest park centred on the Victoria Range and Reefton has been proposed. The magnificent beech forests of this area are well recognised nationally and will be managed to highlight their production potential, as well as to preserve the historic associations and scenic, scientific, educational, and recreational values. In contrast to this relatively easy tract of forest is the rugged wilderness of the Raukumara Range which will be part of the Raukumara State Forest Park.

The total area of State forest park is now 1.29 million hectares. Each of the 17 parks provides the opportunity for the public to comment on their management either as a member of the park advisory committee or by making submissions on draft management plans.

The table below sets out the respective names and areas of each park:

Forest Park	*Conservancy*	*Area* (hectares)	*First Gazetted*
Tararua	Wellington	115 675	14.9.67
Craigieburn	Canterbury	17 090	26.10.67
Kaimanawa	Wellington	74 811	2.10.69
North-west Nelson	Nelson	376 572	10.9.70
Coromandel	Auckland	71 619	6.5.71
Pirongia	Auckland	14 277	20.5.71
Rimutaka	Wellington	14 085	10.8.72
Kaweka	Wellington	64 519	31.1.74
Lake Sumner	Canterbury	73 895	4.7.74
Haurangi...	Wellington	15 683	16.12.74
Catlins	Southland	56 586	6.3.75

Forest Park	*Conservancy*	*Area (hectares)*	*First Gazetted*
Kaimai-Mamaku	Rotorua	37 165	23.10.75
Whakarewarewa	Rotorua	3 830	23.10.75
Ruahine	Wellington	90 174	15.1.76
Mt Richmond	Nelson	176 284	3.3.77
Hanmer	Canterbury	16 844	25.6.78
Pureora	Auckland	71 177	7.9.78

Total area at 31 March 1979: 1 290 286.

Open Indigenous Forests—Open indigenous forest status was declared over 151 State forests totalling 1.365 million hectares, providing the public with freedom of entry for access on foot. This right of free access, in certain indigenous State forests, forest parks, and recreation areas now applies to 2.8 million hectares or 65 percent of all State forest land. The trend is expected to continue, the only restraint being concern for public safety and safety of the forest itself.

Wilderness Reserve—The proposal to set aside 83 000 ha of the Tasman Mountains in north-west Nelson as a wilderness area under section 63E of the Forests Amendment Act 1976 was deferred as a result of public concern over inadequate evaluation of the area's economic resources. The halt in pursuing this option provides opportunity for further assessment of the area's mineral potential and to put wilderness management into perspective nationally. The area will be managed to ensure that the opportunity to adopt the wilderness option in the future is not jeopardised.

Reservations—While no new forest sanctuaries and only two small dedicated areas have been gazetted, the Scientific Co-ordinating Committee recommendations were generally supported by the West Coast Officials Committee. The total area of State forest now protected by sanctuary or dedicated status is 24 633 ha; an area that will substantially increase as committee recommendations are implemented.

Wild Animal Control Act 1977—One of the major changes resulting from the Wild Animal Control Act 1977 has been the increase in time which forest officers now have to devote to law enforcement duties. Trespass to take wild animals, principally deer, mainly by commercial hunters, has been a common offence. With the establishment of the National Recreational Hunting Advisory Committee, and Ministerial approval in principle to declare the State forests of the Lake Sumner region a recreational hunting area, a new era in Forest Service - sport hunter co-operation has been inaugurated. Other areas are being investigated. In some areas deer population levels are such that they do not at present constitute a threat to vegetation or soils, and recreational hunters and commercial operators are competing for a diminishing resource. Deer farmers have also had occasion to laud the more liberal feral range provisions. Simplified licensing and inspection procedures are to be introduced. The new procedures for goat farming have not, as yet, been used to any great degree, but interest is growing.

Helicopter Licensing—Another major change has arisen through the demand for and the higher prices being paid for captured deer. Farmers who hold deer farming licences, or who have deer on their properties, want to be able to hire a helicopter capture team or otherwise enter into a

contract on their terms for the helicopter capture of deer. Wild animal recovery operators are therefore being required to supply a public service to meet a need. Increasingly the licensed operators are equipping themselves for live capture, and few operators are now concerned with carcass recovery. Another effect of the high prices being paid for live deer has been the increase in applications for wild animal recovery service licences. Nearly all such applications have been refused, the intention during this first year of licensing being to restrict numbers of aircraft close to the level of the number operating at the time the Wild Animal Control Act came into effect. This policy has been effective in highlighting areas of the country where further licences are required.

With re-licensing due before 31 May for the new operational year 1 June 1979 to 31 May 1980, information on licensing needs and the performance of licensed operators is being gathered. So far as can be judged and as indicated at the regular meetings with the licensed operators, this first year of licensing has been satisfactory.

Deer Farming—Confidence in the future of deer farming is illustrated by the dramatic increase in applications to farm deer and to capture wild deer to stock deer farms. During the current year 400 new deer farm applications were received making up a total of 850 properties either licensed or in the process of being licensed to farm deer. While statistics are not complete, it is believed over 41 000 deer are held on deer farms throughout the country.

During the year 445 new permits were issued to capture deer, showing the increasing emphasis now being placed on the ground and aerial capture of deer. From 1 April 1979 deer farm licensing formerly handled by the Ministry of Agriculture and Fisheries has been consolidated under the Wild Animal Control Act administered by the Forest Service.

4. COMMERCIAL OPERATIONS

MILL OPERATIONS

Nineteen seventy-eight was the first full year's operation of the productivity bonus scheme at Waipa Sawmill. Although the industrial situation remained stable and harmonious throughout the whole year, the scheme did not achieve the expected results. Benefits under the scheme were adversely affected by market conditions. The scheme is currently being reviewed in an attempt to obtain a bonus level more acceptable to the unions yet retaining the concept of profit sharing.

The investment programme for the mills continued its emphasis on the provision of processing units and ancillary servicing units. The construction of five extra kilns at Waipa is proceeding and tenders have been called for the installation of a new treatment plant. A second machine stress grader was installed at Waipa in order to take maximum advantage of the Australian market for light framing timbers and a new and more efficient dry table complex was completed.

The completion of a new store at Waipa has resulted in improved servicing for the mill.

Both mills are now able to offer markets in New Zealand and overseas an almost complete range of solid wood products and timber components. This is particularly important in matching international competition and provides a welcome addition to New Zealand's export trade.

PRODUCTION AND SALES

Production at 174 446 m^3 was 3 percent below the 1977 level, while total sales at 163 552 m^3 were down by 2.6 percent. The downturn in the domestic market, especially for building timbers, was reflected in the domestic sales of 94 087 m^3 which were 19.3 percent below the 1977 sales. However, overseas sales of 69 465 m^3 represented a 35.3 percent increase. The growing significance of exports is illustrated by the fact that they now represent 42.5 percent of total sales.

The Japanese and Australian markets continued to be strong, accounting for 45.4 percent and 32 percent respectively of overseas sales. Remaining sales were to the Middle East, the Pacific Islands, and the United States. Continued development of the Middle East market is being undertaken against intense competition from all the major timber supplying countries, and the results are encouraging. It is expected that a stable marketing situation will finally be achieved. The Commercial Division has commenced the export of furniture components to the United States, a market with considerable potential. Market opportunities in the United Kingdom and Europe are being further investigated and worthwhile prospects do exist. Faced with virtually a nil growth situation in sawmill manufacturing because of the lack of additional sawlog availability until after the mid 1980s, the Commercial Division's overseas marketing approach is one of achieving a better balanced market for all grades and sizes of timber and of obtaining as much added value by way of processing and remanufacturing as is possible.

Wood Costs—Logs were purchased at three price points. Average prices per cubic metre were: Waipa $3.49 on stump and $10.90 on forest ride; Conical $12.72 delivered at mill.

PROFITS AND APPROPRIATIONS

Turnover for the year at $21,397,804 was 16½ percent up on that achieved in 1977. A change in the Income Tax Act and the further implementation in 1978 of recommended standard practices of the Society of Accountants make invalid any comparison of the 1977 and 1978 tax paid profits as shown in the accounts. The true comparison of results achieved are tax paid profits 1977—$1,122,162 and 1978—$1,269,685, i.e., a 13 percent increase.

The year's results allow for the continuation of the 14 percent dividend. Profits will be appropriated as follows:

Tax paid profits	$1,702,662
Dividend at 14 percent ...	815,570
Retained profits	889,092

Detailed accounts for the year ended 31 December 1978 are given in appendix 9.

5. PRODUCTION AND TRADE

PRODUCTION

Because of the date of publication of this report, the latest actual production figures are for the year ended 31 March 1978 (see appendices 4–7).

Total Wood Production—The total removal of roundwood for the year ended 31 March 1978 is estimated at 9.3 million cubic metres, a 5 percent decrease from the previous year.

Sawn Timber Production—Total sawn timber production for the year ended 31 March 1978 was the lowest for 5 years. Total production was 1 961 000 m^3 compared with 2 212 000 m^3 in the previous year, a 11 percent decrease. This reflects the general state of the economy and particularly the downturn in the building and construction industries.

The production of indigenous sawn timber continued to fall, decreasing by 26 percent to 255 000 m^3.

Exotic sawn timber production decreased by 9 percent to 1 706 000 m^3.

Pulp and Paper—Production of mechanical and chemical pulps for paper and paperboard manufacture continued to rise with 1 097 000 tonnes being recorded for the year ended 31 March 1978, an increase of 42 000 tonnes over the previous year. Pulp production for the year ended 31 March 1979 is expected to decrease to approximately 1 million tonnes.

Total paper and paperboard production increased by 6000 tonnes to 641 000 tonnes. Of this, newsprint production increased by 1000 tonnes to 277 000 tonnes; and other paper and paperboard increased by 5000 tonnes to 365 000 tonnes.

Newsprint production for the year ended 31 March 1979 is expected to decrease to about 255 000 tonnes due to industrial unrest in April 1978. The production of other paper and paperboard is expected to remain the same as last year.

Panel Products—Particle board production decreased markedly during the year ended 31 March 1978 by 52 000 m^3 to 107 000 m^3 and fibreboard production decreased by 5000 tonnes to 51 000 tonnes. However, both veneer and plywood production increased, veneer from 41 000 m^3 to 48 000 m^3 and plywood from 26 000 m^3 to 33 000 m^3.

TRADE

The latest available statistics for trade in forest products are for the year ended 30 June 1978 for both imports and exports.

Total exports continued to increase, reaching a value of $234 million. Australia and Japan were the major export markets, accounting for 41 percent ($96 million) and 35 percent ($83 million) of forestry exports respectively.

Exports of Sawn Timber—The volume of sawn timber exported increased 24 percent over the previous year to reach a total of 333 000 m^3 accounting for about 17 percent of total production. The value of these exports increased by 27 percent to $24 million.

Special mention must be made of the sawn timber trade with Japan. Restraints on the development of trade in sawn commodities have been

caused by the unfavourable attitude of the Japanese towards radiata pine as a building timber, and limitations imposed by the grading rules and building code on softwood building timbers. The low regard for radiata pine has been caused by its poor performance in the early 1970s when timber produced from ungraded New Zealand logs was tried out on a small scale for certain construction uses in Japan.

The problem is twofold. First, it is necessary to convince the Japanese authorities of the structural adequacy of properly graded radiata pine, and second it is essential to promote a favourable attitude towards radiata pine as a building timber, based on New Zealand experience at home and abroad.

Consequently, a programme of testing of timber graded to Japanese standards has been carried out at the Forest Research Institute in close liaison with Japanese authorities engaged in a similar investigation. The New Zealand test work was followed up by a visit to Japan by a Forest Research Institute scientist.

A party of eight Japanese officials and experts visited New Zealand last September to study the uses of radiata pine in buildings and to discuss problems of its acceptance in Japan. The results of the Japanese tests and the outcome of the officials' visit, are now awaited as is the evaluation by the Japanese authorities of the New Zealand tests.

Exports of Paper and Pulp—Total paper and paperboard exports increased by 6000 tonnes to 262 000 tonnes for the year ended 30 June 1978. Of this, newsprint exports increased by 14 000 tonnes to 190 000 tonnes while other paper and paperboard decreased by 8000 tonnes to 72 000 tonnes. The total value of paper and paperboard exports decreased by $3 million to $76 million.

The value of pulp exports decreased slightly to $70 million for the year ended June 1978, although the volume increased by 9000 tonnes to 430 000 tonnes.

Export of Logs—A decrease of 6 percent to 1 070 000 m^3 from the previous year was recorded in the volume of log exports. However, value increased by 19 percent to $38 million.

Exports of Woodchips—Woodchip exports increased 11 percent to 185 000 b.d.u.s. This represented a value of $9 million, an increase of $1 million.

Imports of Forest Products—During the year ended 30 June 1978 the total c.d.v. value of imports decreased to $48 million. This represented a drop of 13 percent over the previous year. Log imports increased from 7000 m^3 to 9000 m^3, the value increasing from $953,000 to $1 million. Sawn timber imports decreased from 36 000 m^3 ($8 million) to 23 000 m^3 ($5 million); pulp imports increased from 4000 tonnes ($2 million) to 8500 tonnes ($3 million); and paper and paperboard decreased from 40 000 tonnes ($33 million) to 28 000 tonnes ($28 million). The value of imports of other forest products dropped from $15 million to $13 million.

PRICE CONTROL

The Forest Service has consistently advocated the removal of price control from sawn timber, particularly indigenous timber. It is considered that such a move will eventually ensure a correct balance is reached

between the value of the higher and lower grades of timber thereby ensuring that industry will seek to recover the maximum volume in the higher grades.

An inquiry into the advisability of removing indigenous sawn timber from price control has been carried out by the Commerce Commission and announcement of the Commission's decision is awaited.

6. RESEARCH AND DEVELOPMENT

RESEARCH

The Report of the Forest Research Institute for 1978, published separately, deals fully with the year's research programme.

WOOD USE

End Use Survey—The survey of timber and wood-based products in residential construction mentioned in last year's report is well advanced. Sampling and field work have been completed and processing and analysis of this data has commenced. Publication of the report can be expected next year.

Standards—The Forest Service has been heavily involved during the year in the formulation and revision of New Zealand Standards as they relate to wood and its end uses. Standards revised or produced during the year include the national timber grading rules, the model building bylaw, a code of practice for light timber frame buildings, timber ladders, finger-jointed timber, load bearing round timber piles and poles, and round timber fence posts. As well, a new standard is being prepared for mechanically stress-graded timber.

Export Standards for Timber Products—It is anticipated that, coincidental with the promulgation of revised Forest Produce Import and Export Regulations 1966 in the near future, a *Gazette* notice covering minimum export requirements for timber will be issued. Proposals for these requirements, which are currently being finalised by the NZ Sawmillers Federation (Inc.) in consultation with the Forest Service, are expected to be presented for approval shortly. The formulation of approved export standards covering quality of preservative treatment, moisture content, and an identification and quality control system, will mean that the Forest Produce Import and Export Regulations will apply only in respect of quarantine matters.

7. OTHER ACTIVITIES

ENGINEERING

Roading—The cost of forest roading increased substantially during the year due to higher contract rates and the increased cost of imported earth moving machinery. In addition to these inflationary increases, the country presently being planted is more difficult to road. Endeavours are being made to economise by aggregating roading requirements. However, this can only be done in locations where the roading system is extensive.

Accommodation Standards—The trend towards baching camps continues. Redesigns have been undertaken in an endeavour to keep

accommodation costs per man as low as possible. Experience with transportable buildings has shown that in a number of cases they are cheaper than built on site units. The department will therefore be utilising this form of construction to an increasing extent.

Vehicles and Plant—The motor vehicle fleet has been updated substantially during the year. The number of units procured increased over that of the previous year. On the other hand, the supply of earth moving and logging plant slowed somewhat, resulting in an ageing of heavy equipment. Although much work can be and is handled by contractors, it is essential that departmental equipment be kept and operated in economic units. Some re-allocation between areas will be necessary and some early replacement of ageing machines will also be required.

Sawmill Engineering—An opportunity exists to demonstrate most efficient methods of gaining energy from sawmill residues, in view of the present age and usefulness of the boiler and generating plant at Waipa Sawmill. It is the department's wish to utilise residues in the most efficient way possible adopting proven technology. To do this some investigation will be necessary in North America and Europe. Approval for this will be sought together with the detailed planning and design which would probably best be handled by consulting engineers.

TIMBER INSPECTION AND QUARANTINE

The total sawn timber exports for the year ending December 1978 increased 7 percent over the previous year to 343 700 m^3 The largest increase was to the Gulf States with 30 percent, next was Australia 12 percent, with smaller increases to Japan and other countries. The only decrease, that of 8 percent was to the islands of the Pacific basin.

The total log export was 991 000 m^3, a decrease of 7 percent. The only North Island port presently exporting logs, Mt. Maunganui, handled 66 percent of the New Zealand total with the balance passing through Nelson, Dunedin, and Bluff.

As in previous years, insects were not a problem but decay fungi was found in material, particularly pulp, logs, which were left too long before shipment.

With the large decreases in imported sawn and roundwood timber it was surprising to find that the quantity quarantined for insect infestation amounted to a high percentage. The only termites were the continuation of the infestation found in Auckland last year and these are currently being treated.

There has been little improvement in documentation and coding of containers compared with the previous year, but with the joint Forest Service/Ministry of Agriculture and Fisheries booklet on quarantine requirements together with discussions with the container shipping line companies, an improvement is expected in the future.

TIMBER PRESERVATION AUTHORITY

Major changes in both the structure and composition of the Authority took place during the year. Mr C. L. Bishop, chairman of the Authority since its inception, retired and was replaced by Mr M. S. Miller who represents the New Zealand Institute of Architects. Changes to the

regulations by Order in Council meant that the Departments of Scientific and Industrial Research and Trade and Industry are no longer represented on the Authority and that Federated Farmers New Zealand (Inc.) comes in as a new member.

As at 31 March 1979 there were 300 preservative treatment plants registered with the Authority. Eleven new plants were approved and nine registrations cancelled. Suspensions were placed on four plants due to lack of proper technical control.

Important new concepts in the field of wood preservation were introduced into New Zealand with the approval of two new preservatives, namely organic solvent type preservatives based on *Tributyltin oxide* as the main component and water-borne *Alkyl Ammonium compounds* (AACs). New Zealand is the first country in the world to use AACs as commercial preservatives. The former preservative has at this stage been approved initially for the treatment of roof shingles and pre-cut components for glass houses whilst AACs have been approved for uses up to the moderate decay hazard level, i.e. exposed to weather but out of ground contact.

As a result of research by the Forest Research Institute there has been a relaxation on the proscription of the treatment of hardwoods for use in the ground. Applications for the treatment of of hardwood posts (not poles) will be considered on an individual experimental basis.

Since the introduction of the new branding requirements, which came into force on 1 January 1978, legibility of brands on treated wood products is better than at any time in the past. The remaining problem in this area is to educate the public fully on brand interpretation and the correct end use of the various treated commodities.

PUBLICATIONS AND PUBLICITY

Publications—During the year there has been a constant demand for publications produced by the Forest Service. Because of the growing public interest in Forest Service activities and in the forestry industry there has been pressure to produce more publications—technical, advisory, educational, and recreational. The Forest Research Institute continues to publish research and scientific findings and items of a general scientific nature. A total of 34 publications were produced during the year ended 31 March 1979, not including the scientific material published by the Forest Research Institute. Information on forest parks has been keenly sought after and greater emphasis will be needed in future on this type of material.

Publicity—Increasing public interest has meant an increase in comment by groups and individuals. The department has responded to this, particularly in the environmental field by providing information with accompanying publicity material wherever possible, by making the decisions on management more open, through advisory committees, and by inviting comment on forest management plans. The strong interest in forestry was clearly demonstrated by the public response to an open day held at Woodhill Forest near Auckland in December. This type of activity, and the opening of forestry information centres, has done much to improve public understanding, and will be continued where possible. Other publicity activities carried out throughout the department have included displays at A. and P. and similar shows, talks and lectures to schools and other groups, showing of films, press releases, and feature articles for newspapers, magazines, and television. Contact with the

public in the field is important and visits to Forest Service establishments have been encouraged. Major annual publicity campaigns for forest fire prevention and for Arbor Day were repeated.

OVERSEAS AID PROJECTS

There are 14 Forest Service officers seconded to overseas positions under the Ministry of Foreign Affairs at present. Of these, all but one are based in the Pacific region.

Officers attached to the Fiji Pine Commission on a long-term basis have been reduced to three over the year with various positions being filled from other departments and the private sector. Forest Service input has concentrated on forestry operations from establishment to harvesting. Engineering Division and Forest Research Institute staff undertook a number of short advisory visits to the commission. A plant operator instructor from the Forest Service is based in Suva.

The first three-man Forest Service team in Western Samoa returned to New Zealand in December 1978. Replacements and two additional officers, a training ranger and leading woodsman, are now established. Experts on short-term assignments assisted with utilisation, draughting and survey, insect pest, and establishment studies.

The afforestation and milling programme in Tonga is supervised by a chief forestry officer from New Zealand. Short-term visits were made by plant nutrition and milling experts.

The Timber Industry Training College in Lae, Papua New Guinea has a principal and two instructors from the Forest Service. A number of short visits by Engineering Division staff have concerned the building programme and supply of equipment.

A fire control project was established in Kerala State, India this year. The fire control adviser is concentrating on a training programme but other facets of fire control will be implemented. Two officers spent 6 weeks in Himachal Pradesh, India advising on nursery and plantation techniques.

The ASEAN afforestation project based in the Philippines has yet to commence although a three-man team has been selected from the Forest Service.

Apart from these project areas, visiting experts went to the Gilbert Islands to investigate coconut utilisation, the Philippines to advise the Coconut Authority and commission mill equipment, Malaysia to appraise logging and sawmill training projects and assist in the hydrology project. Various officers undertook consultancies in Chile, sponsored by FAO and other organisations

There is a Forest Service officer assisting at Sagarmatha National Park, Nepal, under Volunteer Service Abroad.

The most concentrated input in terms of personnel was a seven-man delegation sent to the Regional Meeting on Forestry Management and Development with special reference to hardwood afforestation. This meeting was sponsored jointly by the South Pacific Commission and New Zealand Government and held in Suva, Fiji from 30 October to 3 November.

8. ADMINISTRATION

TRAINING

Logging Training—The scheme commenced in 1977 by the Forest Service, NZ Forest Products, the Kaingaroa Logging Company, and now joined by Fletcher Forests has been advanced with the assistance of the Vocational Training Council to the stage where an industry training council will shortly be formed. In the meantime, as loggers achieve agreed levels of skill, a personal certificate, issued by the interim group steering committee, records individual progress.

Forestry Training—In addition to the normal adult short course training programme, a series of six courses on the provisions of the Wild Animal Control Act 1977 were attended by 114 departmental officers who hold warrants under the new legislation.

Training Schemes—Nine forester trainees graduated from the University of Canterbury at the end of 1978. Six other 1978 graduates have been engaged. Seventeen ranger trainees passed their Stage IV forestry subjects for the NZ Certificate of Forestry. In November 1979 these trainees will be the first to attempt the final examinations for the certificate. Of the 60 woodsmen who began training in 1976, 52 graduated at the end of 1978, while another was selected for ranger training. A retention rate of 86 percent after 3 years training is considered very satisfactory.

Training for industry—A fall in the number of apprentices attending the Timber Industry Training Centre from 152 in 1977 to 134 in 1978 reflects the national trend of reduced numbers of apprentices being engaged by industries. Overseas aid training undertaken at the centre has also fallen markedly, there being 14 trainees in 1978 compared with 48 in 1977. The opening of a similar training centre in Papua New Guinea provided under New Zealand's aid programme has contributed to this decrease.

A modest increase in adults attending the centre from the New Zealand industry has been most encouraging.

Training courses covering silviculture/utilisation, wood preservation, timber grading, timber utilisation, timber drying, and quarantine requirements were held during the year. All courses attracted applications far in excess of the accommodation capacity.

STAFF

Overseas visits—The Director-General and Conservator of Forests, Canterbury attended the 8th World Forestry Congress in Jakarta, Indonesia. The Deputy Director-General attended the FAO standing committee on Commonwealth Forestry in Rome, Italy and en route attended a workshop at the Environment and Policy Institute, Honolulu, Hawaii. The Assistant Director-General attended the 32nd Australian Pulp and Paper Industry Technical Assistance Conference held in Sydney, Australia.

Marketing and trade negotiations in North America were undertaken by the Director, Commercial Division in addition to renewing trade contracts in South Korea and re-negotiating sales of sawn timber in Japan. Likewise, the Assistant Director negotiated sales of sawn timber in

Australia and also visited the Middle East to renew contracts for pallet timber. Sales of sawn timber were also negotiated by sales officers in the Pacific Islands.

The Director of Marketing visited Japan, South Korea, and the People's Republic of China to review and renegotiate price and volume specifications for sale of export logs, and also visited the USA and Canada for consultations and negotiations on log exports. Burnt logs were the subject of negotiations by a marketing officer who travelled to South Korea.

A further 23 officers undertook various overseas visits for departmental purposes including scientific investigations, study tours, exchange visits, and representations at various international meetings.

APPENDIX 1

Area of State Forest Land at 31 March 1979

(Area in hectares)

Conservancy (1)	Permanent State Forest: Ordinary (2)	Permanent State Forest: National Endowment (3)	Total Area of State Forest Land (4)	State Forest Land as Percentage of Total Land Area of Conservancy (5)
Auckland	353 999	38 313	392 312	11.5
Rotorua	410 129	132 258	542 387	17.3
Wellington	585 004	16 506	601 510	12.7
Nelson...	928 092	290 913	1 219 005	43.6
Westland	499 879	229 302	729 181	46.6
Canterbury	278 276	1 476	279 752	6.8
Southland	442 333	28 317	470 650	6.9
Total	3 497 712	737 085	4 234 797	15.9

Reservations and Withdrawals

	Hectares
Land placed under State reservation	7 392
Areas withdrawn from reservation comprised—	
For settlement	115
For national parks	–
For roads	4
For scenic reserves	106
Other	645

APPENDIX 2

New Area Planted in State Exotic Forests—By Species

(Area in hectares)

Year Ended 31 March (1)	Radiata Pine (2)	Douglas Fir (3)	Corsican Pine (4)	Other (5)	Total (6)
1979	18 871	596	100	2 117	21 684
1978	18 021	631	13	1 229	19 894
1977	20 793	719	25	741	22 278
1976	20 150	653	9	853	21 665
1975	19 515	795	15	704	21 029
1974	19 673	794	20	472	20 959
1973	15 792	1 107	19	440	17 358
1972	11 795	880	27	311	13 013
1971	12 674	1 435	97	532	14 738
1970	11 746	2 166	192	683	14 787
1969	10 240	2 391	272	588	13 491
1968	7 188	2 008	173	292	9 661
1967	6 159	1 664	463	302	8 588
1966	6 115	1 233	844	123	8 315
1965	5 947	1 571	551	606	8 675
1964	5 075	745	848	775	7 443
1963	3 675	749	822	898	6 144
1962	2 651	915	603	595	4 764
1961	1 926	858	356	761	3 901
1960	1 036	680	437	741	2 894

APPENDIX 3

Establishment and Clear Felling in State Exotic Forests

*(a) Totals for Conservancies as at 31 March 1979**

(Area in hectares)

Conservancy (1)	*Operations During Year*				*Stocked Area* (6)	*Areas Awaiting Restocking* (7)	*Total Productive Area* (8)
	New Area Planted (2)	*Former Productive Areas Re-stocked by Planting* (3)	*Area Clear Felled with Yield* (4)	*Other Changes in Stocked Areas* (5)			
Auckland	3 292	865	656	− 208	63 592	1 367	64 959
Rotorua	5 327	7 206	4 902	−1 045	190 647	4 213	194 860
Wellington	3 514	363	188	− 11	58 178	483	58 661
Nelson	3 380	280	203	+ 630	47 056	694	47 750
Westland	1 269	...	6	− 204	13 228	31	13 259
Canterbury	978	1 017	528	− 170	27 016	4 605	31 621
Southland	3 924	323	186	+ 146	49 394	269	49 663
Total	21 684	10 054	6 669	− 862	449 111	11 662	460 773

*Provisional.

(b) Totals for both Islands and New Zealand

(Area in hectares)

Region (1)	*Operations During Year*				*Stocked Area* (6)	*Areas Awaiting Restocking* (7)	*Total Productive Area* (8)
	New Area Planted (2)	*Former Productive Areas Re-Stocked by Planting* (3)	*Area Clear Felled with Yield* (4)	*Other Changes in Stocked Area* (5)			
Total North Island, year ended 31 March—							
1979*	12 133	8 434	5 746	−1 264	312 417	6 063	318 480
1978	12 806	6 517	6 144	+ 81	298 860	8 244	307 104
1977	14 077	5 393	5 360	− 718	285 588	7 273	292 861
1976	14 132	5 462	4 744	+1 265	272 196	6 570	278 766
1975	13 164	5 454	4 004	−2 566	255 599	4 716	260 617
1974	13 248	4 416	3 591	−1 572	243 852	5 227	249 080
Total South Island, year ended 31 March—							
1979*	9 551	1 620	923	+ 402	136 694	5 599	142 293
1978	7 088	1 447	2 039	− 92	126 044	6 157	132 201
1977	8 201	1 242	2 318	− 360	119 640	4 573	124 213
1976	7 533	1 809	1 840	− 892	112 875	3 509	116 384
1975	7 865	1 084	1 179	−1 451	106 265	3 219	109 484
1974	7 711	1 474	1 102	− 442	99 947	2 672	102 619
Total New Zealand, year ended 31 March—							
1979*	21 684	10 054	6 669	− 862	449 111	11 662	460 773
1978	19 894	7 964	8 183	− 11	424 904	14 401	439 305
1977	22 278	6 635	7 678	−1 078	405 228	11 846	417 074
1976	21 665	7 451	6 584	+ 373	385 071	10 079	395 150
1975	21 029	6 538	5 183	−4 017	362 166	7 899	370 101
1974	17 358	5 890	4 693	−1 984	343 799	9 222	351 699

*Provisional.

APPENDIX 3—*continued*

Establishment and Clear Felling in State Exotic Forests as at 31 March 1978

(c) by Forests, North Island Conservancies

(Area in hectares)

Conservancy and Forest (1)	*Operations During Year*							
	Stocked Area as at 31.3.77 (2)	*New Area Planted* (3)	*Former Productive Areas Re-stocked by Planting* (4)	*Area Clear Felled with Yield* (5)	*Other Changes in Stocked Area* (6)	*Stocked Area as at 31.3.78* (7)	*Area Awaiting Restocking* (8)	*Total Productive Area* (9)
Auckland—								
Athenree	851	..	26	16	+ 4	865	2	867
Aupouri	8 591	1 465	..	12	− 11	10 033	44	10 077
Glenbervie ...	4 469	286	86	8	− 53	4 780	18	4 798
Great Barrier ...	34	..	..	..	..	34	..	34
Katikati	19	..	..	..	..	19	..	19
Coromandel ...	825	377	11	31	+ 4	1 186	..	1 186
Mangawhai ...	1 000	12	..	..	..	1 012	..	1 012
Maramarua ...	4 617	..	141	134	− 19	4 605	157	4 762
Omahuta ...	540	148	20	2	− 1	705	..	705
Pouto	..	73	..	..	..	73	..	73
Puketi	74	..	..	..	..	74	..	74
Pureora	3 950	248	..	..	− 22	4 176	..	4 176
Riverhead ...	4 105	..	215	184	− 69	4 067	309	4 376
Russell	34	..	..	..	..	34	..	34
Tairua	8 062	104	149	193	− 24	8 098	573	8 671
Tanui-kawhia ...	722	109	..	..	..	831	..	831
Tawarau	596	112	..	..	− 23	685	..	685
Waipoua	2 394	155	80	38	..	2 591	38	2 629
Waitangi	2 002	..	20	16	..	2 006	65	2 071
Waiuku	1 076	..	11	14	..	1 073	143	1 216
Whangapoua ...	4 433	248	34	..	− 35	4 680	..	4 680
Whenuakite ...	4	..	..	..	− 4	..	..	..
Woodhill	8 512	176	7	4	− 19	8 672	..	8 672
Total	56 910	3 513	800	652	−272	60 299	1 349	61 648
Rotorua—								
Haparangi ...	229	..	..	..	..	229	..	229
Horohoro ...	1 117	45	..	..	+ 24	1 186	..	1 186
Kaimai-Mamaku ...	..	30	..	..	+ 98	128	..	128
Kaingaroa ...	108 936	832	4 554	4 292	−150	109 880	2 708	112 588
Lake Taupo ...	12 451	1 254	..	..	+ 7	13 712	..	13 712
Mangatu	9 388	771	..	..	− 27	10 132	..	10 132
Manutahi ...	73	94	..	..	..	167	..	167
Marotiri	134	..	..	..	..	134	..	134
Mata	226	..	..	..	..	226	..	226
Patanamu ...	2 514	299	..	..	+ 27	2 840	..	2 840
Rotoehu	6 457	142	134	153	+ 3	6 583	59	6 642
Ruatoria	6 338	1 218	..	..	+ 5	7 561	..	7 561
Tihoi	1 136	67	..	..	..	1 203	..	1 203
Te Whaiti Nuiatoi ...	58	283	..	..	..	341	..	341
Waimihia ...	17 575	..	654	746	+ 19	17 502	3 189	20 691
Waiotka	43	..	..	..	..	43	..	43
Waipunga ...	356	164	..	..	..	520	..	520
Wairakei	372	2	..	25	+143	492	233	725
Whaka	4 603	125	79	71	+ 1	4 737	58	4 795
Whareratа ...	2 537	373	..	..	+ 19	2 929	..	2 929
Whirinaki ...	3 185	207	..	..	+124	3 516	..	3 516
Total	177 728	5 906	5 421	5 287	+293	184 061	6 247	190 308
Wellington—								
Awahohonu ...	2 786	546	..	..	− 4	3 328	..	3 328
Bulls	12	..	..	..	..	12	..	12
Erua	1 689	..	..	..	− 47	1 642	55	1 697
Esk	2 854	33	..	10	− 54	2 823	37	2 860
Gwavas	5 148	186	53	41	− 8	5 338	122	5 460
Karioi	7 599	233	56	76	+ 2	7 814	115	7 929
Kaweka	4 361	249	..	..	− 8	4 602	..	4 602
Lismore	2 494	239	..	..	− 12	2 721	..	2 721
Mohaka	5 666	527	..	..	− 2	6 191	28	6 219
Motuiti	13	..	..	..	..	13	..	13
Mount Bruce ...	13	..	..	..	..	13	..	13
Ngaumu	6 918	306	39	30	+ 13	7 246	152	7 398
Poutu	18	..	..	..	..	18	..	18
Raupunga ...	48	..	..	..	..	48	..	48

APPENDIX 3—*continued*

Establishment and Clear Felling in State Exotic Forests as at 31 March 1978

(c) by Forests, North Island Conservancies

(Area in hectares)

Conservancy and Forest (1)	*Operations During Year*							
	Stocked Area as at 31.3.77 (2)	*New Area Planted* (3)	*Former Productive Areas Re-stocked by Planting* (4)	*Area Clear Felled with Yield* (5)	*Other Changes in Stocked Area* (6)	*Stocked Area as at 31.3.78* (7)	*Area Awaiting Restocking* (8)	*Total Productive Area* (9)
Rimutaka ...	148	..	..	..	..	148	..	148
Rotoaira	2 280	764	..	..	..	3 044	..	3 044
Ruahines... ...	133	..	..	..	..	133	..	133
Santoft	2 877	42	39	3	+ 4	2 959	45	3 004
Tangimoana ...	152	4	..	..	..	156	..	156
Tangoio	..	131	..	..	+200	331	..	331
Tararua	457	32	..	..	..	489	..	489
Te Wera	1 471	78	..	..	− 2	1 547	4	1 551
Tinui	59	..	..	1	..	58	1	59
Tongariro ...	1 002	..	..	8	..	994	51	1 045
Waitarere ...	1 439	..	109	36	− 20	1 492	38	1 530
Waituhi	396	..	..	..	..	396	..	396
Woodstock ...	929	17	..	..	− 2	944	..	944
Total	50 962	3 387	296	205	+ 60	54 500	648	55 148

Establishment and Clear Felling in State Exotic Forests as at 31 March 1978

(c) by Forests, South Island Conservancies

(Area in hectares)

Conservancy and Forest (1)	*Operations During Year*							
	Stocked Area as at 31.3.77 (2)	*New Area Planted* (3)	*Former Productive Areas Re-stocked by Planting* (4)	*Area Clear Felled with Yield* (5)	*Other Changes in Stocked Area* (6)	*Stocked Area as at 31.3.78* (7)	*Area Awaiting Restocking* (8)	*Total Productive Area* (9)
Nelson—								
Charleston ...	20	72	..	..	..	92	..	92
Dumgree... ...	22	..	..	..	..	22	..	22
Fair Down ...	..	20	..	..	..	20	..	20
Golden Downs ...	26 413	1 007	305	421	− 21	27 283	800	28 083
Hira	3 302	246	..	..	− 1	3 547	..	3 547
Hukawai	145	79	..	..	..	224	..	224
Inangahua East ...	..	3	..	..	..	3	..	3
Inangahua West ...	160	..	..	..	..	160	..	160
Karamea North ...	..	..	..	..	..	..	..	..
Karamea South ...	..	..	..	..	..	..	..	..
Mai Mai	..	5	..	..	..	5	..	5
Mohikinui ...	79	..	..	..	..	79	..	79
Motueka	2 139	201	..	..	− 49	2 291	..	2 291
Ohikanui ...	5	..	..	..	..	5	..	5
Queen Charlotte ...	100	..	..	..	+ 57	157	..	157
Rai Whangamoa ...	3 711	256	..	23	+ 6	3 950	..	3 950
Tawhai	546	14	..	10	− 34	516	..	516
Waimea	1 254	204	..	..	− 12	1 446	..	1 446
Wairau	2 547	346	..	..	+ 3	2 896	..	2 896
Waitahu	266	7	..	..	..	273	..	273
Total	40 709	2 460	305	454	− 51	42 969	800	43 769

APPENDIX 3—*continued*

Establishment and Clear Felling in State Exotic Forests as at 31 March 1978

(c) by Forests, South Island Conservancies

(Area in hectares)

Conservancy and Forest (1)	*Operations During Year*							
	Stocked Area as at 31.3.77 (2)	*New Area Planted* (3)	*Former Productive Areas Re-stocked by Planting* (4)	*Area Clear Felled with Yield* (5)	*Other Changes in Stocked Area* (6)	*Stocked Area as at 31.3.78* (7)	*Area Awaiting Restocking* (8)	*Total Productive Area* (9)
Westland—								
Granville... ...	281	9	..	..	..	290	..	290
Hochstetter ...	1 715	152	12	..	− 43	1 836	..	1 836
Hohonu	403	34	6	..	− 6	437	..	437
Ianthe	204	..	..	..	..	204	..	204
Kaniere	707	131	11	..	− 13	836	..	836
Mahinapua ...	819	28	..	18	..	829	52	881
Mawhera ...	3 049	284	..	..	− 9	3 324	..	3 324
Mikonui	25	..	..	..	..	25	..	25
Nemana	1 229	90	9	..	− 9	1 319	..	1 319
Omoto	1 372	..	..	..	..	1 372	..	1 372
Paparoa	96	17	..	..	− 24	89	..	89
Waimea	1 424	158	..	..	..	1 582	..	1 582
Wanganui ...	25	1	..	..	..	26	..	26
Total	11 349	904	38	18	−104	12 169	52	12 221
Canterbury—								
Ashley	5 972	343	210	81	+ 72	6 516	275	6 791
Balmoral... ...	6 161	30	245	616	− 23	5 797	2 662	8 459
Eyrewell	5 120	..	280	338	− 22	5 040	1 524	6 564
Geraldine ...	2 179	195	3	..	+ 1	2 378	17	2 395
Hanmer	3 544	57	116	225	− 50	3 412	445	3 857
Island Hills ...	189	..	..	..	..	189	..	189
Mt Thomas ...	601	148	..	..	..	749	..	749
Omihi	1 197	..	21	..	..	1 218	..	1 218
Oxford	332	..	..	..	..	332	..	332
Waimate... ...	..	..	..	..	+ 88	88	..	88
Total	25 295	773	875	1 290	+ 66	25 719	4 923	30 642
Southland—								
Beaumont ...	2 154	60	35	27	..	2 222	20	2 242
Berwick	8 483	1 161	6	63	− 38	9 549	135	9 684
Blackmount ...	..	50	..	..	..	50	..	50
Herbert	1 525	145	..	..	− 32	1 638	..	1 638
Hokonui	2 289	..	65	39	+ 66	2 381	39	2 420
Naseby	1 549	59	13	19	..	1 602	28	1 630
Otago Coast ...	6 711	345	..	..	−111	6 945	..	6 945
Longwood ...	4 817	125	..	4	..	4 938	4	4 942
Owaka	1 337	154	..	..	..	1 491	..	1 491
Rankleburn ...	3 125	182	..	..	+ 12	3 319	..	3 319
Rowallan ...	1 600	216	..	..	..	1 816	..	1 816
Silverpeaks ...	773	46	..	..	+ 8	827	..	827
Slopedown ...	2 546	408	..	..	+ 92	3 046	..	3 046
Taringatura ...	1 367	..	..	..	..	1 367	..	1 367
Tautuku	64	..	..	..	..	64	..	64
West Tapanui ...	3 947	..	110	125	..	3 932	156	4 088
Total	42 287	2 951	229	277	− 3	45 187	382	45 569

APPENDIX 4

Total Wood Removals from State Forests for Year Ended 31 March 1979*

(Volume in thousand cubic metres)

Conservancy (1)	Indigenous			Exotic			Grand Total
	Logs (2)	Smallwood (3)	Total (4)	Logs (5)	Smallwood (6)	Total (7)	(8)
Auckland ...	28	..	28	379	26	405	433
Rotorua ...	80	..	80	3 143	79	3 222	3 302
Wellington ...	3	1	4	96	27	123	127
Nelson ...	41	1	42	131	9	140	182
Westland ...	121	..	121	3	..	3	124
Canterbury ...	..	..	..	139	9	148	148
Southland ...	23	..	23	132	20	152	175
Total—1978–79*	296	2	298	4 023	170	4 193	4 491
1977–78+	378	2	380	4 238	186	4 424	4 804
1976–77+	431	5	436	4 208	144	4 352	4 788

*Provisional
+Actual

NOTES—(1) This table shows all roundwood removed from State forests under licenses, permits, and log sale agreements.
(2) Roundwood for particleboard is included with logs.
(3) Totals may not add owing to rounding.

APPENDIX 5

Total Wood Removals from State Indigenous Forests by Method of Sale for year ended 31 March 1978

(Volume in cubic metres: value in $(000))

Conservancy (1)	Logs		Smallwood		Total	
	Volume (2)	Value (3)	Volume (4)	Value (5)	Volume (6)	Value (7)
			(a) Sales of Standing Timber			
Auckland	17 922	219	3	..	17 925	219
Rotorua	16 530	33	82	..	16 612	33
Wellington	17 776	142	75	..	17 851	142
Nelson...	49 821	188	997	3	50 818	191
Westland	146 526	695	1 239	5	147 765	700
Canterbury	..	..	..	..	..	..
Southland	25 195	152	45	..	25 240	152
Total—1977–78	273 770	1 429	2 441	8	276 211	1 437
1976–77	296 240	1 093	4 611	9	300 851	1 102
1975–76	380 811	1 249	3 103	9	383 914	1 258
			(b) Sales of Logs			
Auckland	23 452	504	..	..	23 452	504
Rotorua	48 602	918	..	..	48 602	918
Wellington	..	..	..	..	..	..
Nelson...	12 269	111	72	1	12 341	112
Westland	17 504	283	..	..	17 504	283
Canterbury	..	..	..	..	..	..
Southland	2 422	38	..	..	2 422	38
Total—1977–78	104 249	1 854	72	1	104 321	1 855
1976–77	135 152	1 889	391	3	135 543	1 892
1975–76	145 535	1 761	350	97	145 885	1 858

NOTES—(1) Logs include sawlogs, pulplogs, and peeler logs.
(2) Values of log sales relate to the value of timber removed and are based on a bush skid or ride price point.

APPENDIX 6

Total Wood Removals from State Exotic Forests by Method of Sale for the Year Ended March 1978

(Volume in cubic metres: value in $(000))

Conservancy (1)	Logs		Smallwood		Total	
	Volume (2)	Value (3)	Volume (4)	Value (5)	Volume (6)	Value (7)
			(a) Sales of Standing Timber			
Auckland ...	209 746	1 357	28 563	99	238 309	1 456
Rotorua ...	2 024 747	3 867	68 023	229	2 092 770	4 096
Wellington ...	85 948	642	27 205	78	113 153	720
Nelson... ...	62 335	159	116	1	62 451	160
Westland ...	2 410	19	..	..	2 410	19
Canterbury ...	80 776	427	2 946	13	83 722	440
Southland ...	30 197	144	19 923	85	50 120	229
Total—1977–78 ...	2 496 159	6 615	146 776	505	2 642 935	7 120
1976–77 ...	2 318 923	5 415	123 196	371	2 442 119	5 786
1975–76 ...	2 160 828	5 220	95 100	272	2 255 928	5 492
			(b) Sales of Logs			
Auckland ...	129 453	1 602	10 108	161	139 561	1 763
Rotorua ...	1 197 569	12 914	5 374	59	1 202 943	12 973
Wellington ...	348	4	..	..	348	4
Nelson... ...	148 585	1 987	5 297	30	153 882	2 017
Westland ...	..	..	..	..	..	..
Canterbury ...	148 641	3 030	12 969	222	161 610	3 252
Southland ...	117 553	1 665	5 226	81	122 779	1 746
Total—1977–78 ...	1 742 149	21 202	38 974	553	1 781 123	21 755
1976–77 ...	1 888 700	18 906	21 068	263	1 909 768	19 169
1975–76 ...	1 550 379	13 659	24 190	211	1 574 569	13 870

NOTES—(1) Logs include sawlogs, pulplogs, and peeler logs.
(2) This appendix has been adjusted to exclude any logs exports by contractors from standing timber and to include them in sales of logs.
(3) Values of log sales relate to the value of timber removed and are based on a bush skid or ride price point.

APPENDIX 7

Production of Rough Sawn Timber for Year Ended 31 March 1978

(a) By Species

(Volume in cubic metres)

Conservancy (1)	*Indigenous*							*Exotic*				*All species*			*Sawmills Registered* (17)
	Rimu and Miro (2)	*Matai* (3)	*Totara* (4)	*Kahikatea* (5)	*Kauri* (6)	*Tawa* (7)	*Beech* (8)	*Minor Species* (9)	*Exotic Pines* (10)	*Douglas Fir* (11)	*Eucalyptus* (12)	*Minor Species* (13)	*Indigenous* (14)	*Exotic* (15)	*Total* (16)	
Auckland ...	23 527	4 170	926	1926	1 141	6 640	..	761	221 674	4	1 406	9 600	39 091	232 684	271 775	88
Rotorua ...	27 112	1 467	208	1 490	3 006	4 489	36	329	802 051	101 566	305	17 170	38 137	921 092	959 229	42
Wellington ...	19 052	3 185	1 475	1 948	..	667	62	280	219 500	3 606	294	7 721	26 669	231 121	257 790	76
Nelson ...	23 631	52	2	1 421	..	..	2 595	2	57 235	22 865	78	626	27 703	80 804	108 507	52
Westland ...	86 618	203	144	13 721	..	20	836	215	1 241	..	..	..	101 757	1 241	102 998	19
Canterbury...	..	5	3	8	..	..	..	...	131 565	2 506	216	1 569	16	135 856	135 872	57
Southland ...	5 393	246	284	841	..	..	15 506	29	88 523	10 538	72	3 795	22 299	102 928	125 227	43
North Island—																
1977–78 ...	69 691	8 822	2 609	5 364	4 147	11 796	98	1 370	1 243 225	105 176	2 005	34 491	103 897	1 384 897	1 488 794	206
1976–77 ...	97 589	15 091	4 109	6 778	1 202	17 234	78	1 413	1 346 929	127 771	1 433	38 041	143 494	1 514 174	1 657 668	215
1975–76 ...	113 818	19 418	5 587	9 958	1 219	21 005	138	2 683	1 145 961	130 329	9 646	33 206	173 826	1 319 142	1 492 968	232
South Island—																
1977–78 ...	115 642	506	433	15 991	..	20	18 937	246	278 564	35 909	366	5 990	151 775	320 829	472 604	171
1976–77 ...	144 624	428	373	24 763	..	..	28 772	188	315 319	33 442	286	5 753	199 148	354 800	553 948	183
1975–76 ...	151 895	238	337	22 179	..	4	25 488	114	281 512	23 444	585	4 555	200 255	310 096	510 351	186
New Zealand—																
1977–78 ...	185 333	9 328	3 042	21 355	4 147	11 816	19 035	1 616	1 521 789	141 085	2 371	40 481	255 672	1 705 726	1 961 398	377
1976–77 ...	242 213	15 519	4 482	31 541	1 202	17 234	28 850	1 601	1 662 248	161 213	1 719	43 794	342 642	1 868 974	2 211 616	398
1975–76 ...	265 713	19 656	5 924	32 137	1 219	21 009	25 626	2 797	1 427 473	153 773	10 231	37 761	374 081	1 629 238	2 003 319	418

NOTE—(1) This table is based on statistics collected by the New Zealand Forest Service in connection with the annual registration of sawmills.
(2) Indigenous "Minor Species" (column 9) for 1977–78 include taraire, 425 cubic metres; tanekaha, 31 m^3; hinau, 318 m^3; rewarewa, 505 m^3; puriri, 1 m^3; other and unspecified, 336 m^3.
(3) Exotic "Minor Species" (column 13) for 1977–78 include larch, 24 186 m^3; macrocarpa, 14 830 m^3; contorta, 583 m^3; poplar, 267 m^3; redwood, 341 m^3; other and unspecified, 274 m^3.
(4) This table includes the production of sawn sleepers 19 793 m^3 as produced in 1977–78.

APPENDIX 7—*continued*

Production of Rough Sawn Timber for Year Ended 31 March 1978

(b) By Land Ownership

(Volume in cubic metres)

Conservancy (1)	Indigenous					Exotic				
	State Forest Land (2)	Unoccupied Crown Land (3)	Maori Land (4)	Private Land and Crown Leasehold (5)	Total (6)	State Forest Land (7)	Local Authority Land (8)	Company and Private Land (9)	Total (10)	Grand Total (11)
Auckland	24 153	97	1 507	13 334	39 091	171 073	2 151	59 460	232 684	271 775
Rotorua	23 715	..	4 871	9 551	38 137	457 766	131	463 195	921 092	959 229
Wellington	7 247	..	3 815	15 607	26 669	113 523	11 968	105 630	231 121	257 790
Nelson	20 176	..	..	7 527	27 703	43 933	..	36 871	80 804	108 507
Westland	92 088	500	2 978	6 191	101 757	1 013	..	228	1 241	102 998
Canterbury	13	..	..	3	16	67 257	28 225	40 374	135 856	135 872
Southland	14 394	..	6 731	1 174	22 299	69 945	13 234	19 749	102 928	125 227
North Island—										
1977–78	55 115	97	10 193	38 492	103 897	742 362	14 250	628 285	1 384 897	1 488 794
1976–77	83 782	..	17 005	42 707	143 494	791 234	9 198	713 742	1 514 174	1 657 668
1975–76	91 497	67	26 004	56 258	173 826	672 354	14 008	632 780	1 319 142	1 492 968
South Island—										
1977–78	126 671	500	9 709	14 895	151 775	182 148	41 459	97 222	320 829	472 604
1976–77	139 696	9 264	18 238	31 950	199 148	171 046	56 601	127 153	354 800	553 948
1975–76	138 223	7 791	16 520	37 721	200 255	152 482	42 718	114 896	310 096	510 351
New Zealand—										
1977–78	181 786	597	19 902	53 387	255 672	924 510	55 709	725 507	1 705 726	1 961 398
1976–77	223 478	9 264	35 243	74 657	342 642	962 280	65 799	840 895	1 868 974	2 211 616
1975–76	229 720	7 858	42 524	93 979	374 081	824 836	56 726	747 676	1 629 238	2 003 319

APPENDIX 8

REPORT OF THE AUDIT OFFICE

The Audit Office, having been appointed in terms of section 25, Public Finance Act 1977, has audited the accounts of the New Zealand Forest Service.

The audit was conducted in accordance with generally accepted auditing standards and practices comprising such auditing procedures considered necessary in terms of section 25, Public Finance Act 1977 and included:

a review of accounting procedures and controls;

examination and tests of accounting records and other supporting information.

All the information and explanations required have been obtained.

In the opinion of the Audit Office, the attached financial statements fairly reflect, in accordance with applicable accounting principles, the financial position as at 31 December 1978 and the results of the financial operations for the year.

J. T. CHAPMAN, Deputy Controller and Auditor-General.

3 July 1979.

New Zealand Forest Service Accounts for the Year Ended 31 December 1978

(Excludes Commercial Division)

(a) General Administration Account (Note 1)

	1978		*1977*
	$	$	*$*
Direct charges on—			
Establishment, tending, and protection in amenity protection forests (net)	838,156		*224,840*
Fire prevention and administration of fire districts (note 2)	348,397		*228,442*
Technical investigations, research, etc.	8,521,890		*6,594,696*
Assistance to public and private forestry	977,160		*1,505,769*
Timber inspection and termite control	304,869		*269,931*
Wild animal control (note 2)	2,105,343		*1,664,500*
Work for other departments	1,088,909		*973,277*
Staff training	1,025,526		*694,023*
	15,210,250		*12,155,478*
Less miscellaneous recoveries	1,080,127		*453,935*
		14,130,123	*11,701,543*
General administration charges—			
Staff expenses (note 3)	12,058,196		*10,361,370*
Office expenses (note 4)	2,489,696		*1,874,405*
Maintenance and depreciation	3,193,131		*2,115,219*
Miscellaneous general expenses	869,125		*936,579*
	18,610,148		*15,287,573*
Less overhead recoveries from production forests and Commercial Division	7,504,901		*5,801,636*
		11,105,247	*9,485,937*
		25,235,370	*21,187,480*
Less miscellaneous revenue (note 5)		1,312,742	*1,128,863*
Net deficit for year		23,922,628	*20,058,617*
Plus previous year's adjustment (note 6)		383,415	*149,246*
Total deficit transferred to balance sheet		$24,306,043	*$20,207,863*

(b) Income and Expenditure Accounts: Forests in production

	Year ended 31 December 1978				*Year ended 31 December 1977*	
	Exotic		Indigenous		*Exotic*	*Indigenous*
	$	$	$	$	*$*	*$*
Income from—						
Sales of logs	22,986,732		1,964,100		*24,491,004*	*2,034,718*
Sales of standing timber	6,721,420		1,360,709		*5,839,442*	*1,634,677*
Miscellaneous revenue	119,024		20,377		*81,692*	*16,050*
	29,827,176		3,345,186		*30,412,138*	*3,685,445*
Less direct logging and sales costs	15,914,222		1,667,234		*15,575,111*	*1,723,606*
Net income from sales		13,912,954		1,677,952	*14,837,027*	*1,961,839*
Less expenditure on forest management—						
Establishment	4,263,677		79,764		*3,240,681*	*53,263*
Tending	3,590,341		4,214		*2,518,104*	*1,703*
Protection...	1,604,285		47,902		*1,179,764*	*62,023*
Maintenance of assets, depreciation and miscellaneous expenditure	9,275,543		1,630,178		*7,592,259*	*1,038,576*
Personnel oncost	1,433,116		197,140		*1,265,838*	*156,282*
		20,166,962		1,959,198	*15,796,646*	*1,311,847*
Deficit/surplus for year		6,254,008D		281,246D	*959,619D*	*649,992S*
Add previous year's adjustment (note 6) ...		727,432		12,955	–	*267,451*
Total deficit/surplus for year		6,981,440D		294,201D	*959,619D*	*917,443S*
Balance previous year		2,482,045D		1,201,811S	*1,522,426D*	*284,368S*
Total deficit/surplus to date		$9,463,485D		$907,610S	*$2,482,045D*	*$1,201,811S*

(c) Forest Development Account: Developing Forests

	1978 $	$	*1977 $*
Expenditure on continuing development—			
Establishment	9,285,831		*7,117,967*
Tending	6,122,778		*5,669,768*
Protection	1,664,885		*1,079,572*
Maintenance of assets, depreciation, and miscellaneous expenditure	10,403,665		*8,268,607*
Personnel oncost (note 7)	2,033,953		*2,021,419*
Total expenditure		29,511,112	*22,151,333*
Income from—			
Sales of logs	621,947		*733,686*
Sales of standing timber	1,235,559		*1,173,062*
Miscellaneous revenue	108,568		*73,946*
	1,966,074		*1,980,694*
Less direct logging and sales costs	635,097		*552,807*
Net income from sales		1,330,977	*1,427,887*
Net costs for year		28,180,135	*20,723,446*
Add previous year's adjustment (note 6)		625,841	*118,205*
Capitalised costs for year		28,805,976	*20,841,651*
Balance at beginning of year		108,883,680	*88,042,029*
Total forest assets (note 8)		$137,689,656	*$108,883,680*

(d) Balance Sheet as at 31 December 1978

	1978 $	$	*1977 $*
Liabilities			
Advances from Government	287,667,204		*233,613,404*
Less deficit—			
General administration account	24,306,043		*20,207,863*
		263,361,161	*213,405,541*
Accumulated surplus			
Indigenous production forests		907,610	*1,201,811*
Creditors		3,269,289	*2,355,748*
		$267,538,060	*$216,963,100*
Assets			
Fixed assets—			
Land	17,762,605		*15,590,327*
Buildings, roads, plant, etc. (note 9)	86,459,075		*76,406,524*
Forest assets (note 8)	137,689,656		*108,883,680*
		241,911,336	*200,880,531*
Forestry encouragement loans		3,298,221	*2,655,878*
Investment in companies		7,255	
Other investments		344,944	
Current assets—			
Debtors	7,788,983		*7,076,799*
Stocks and stores	4,551,833		*5,595,917*
Deposits held	172,003		*271,930*
		12,512,819	
Accumulated deficit—			
Exotic production forests		9,463,485	*2,482,045*
		$267,538,060	*$216,963,100*

The notes that follow form part of and are to be read in conjunction with these accounts.

G. M. O'NEILL, Director-General.
D. J. LEAHY, Chief Finance Officer.

(e) Notes to the Accounts

1. *General administration account*—Net operating expenses of the department's general government function.

2. *Fire prevention and wild animal control*—Expenditure on non-production areas only. Costs in production forests are charged to those units.

3. *Staff expenses*—Salaries, overtime, travelling, and general expenses of staff.

4. *Office expenses*—Postages, stationery, furniture and fittings, and general office expenses.

5. *Miscellaneous revenue*—Includes $377,802 interest and $621,149 dividends paid by the Commercial Division and $145,595 debenture interest relating to prior periods.

6. *Previous year's adjustments*—

(a) Plant and vehicle depreciation amounting to $1,749,643, understated in the accounts for the years 1975–77 inclusive.

(b) Costs charged to indigenous production forests amounting to $54,105, but more correctly charged to developing forests.

Details are:

(i) General administration—	$	$
Management	6,593	
Fire prevention	5,544	
Technical investigations, etc.	41,990	
Private and public forestry	10,011	
Timber inspection	26,325	
Noxious animal control	31,418	
Work for other departments	22,838	
Staff training	8,845	
Staff expenses	94,751	
Office expenses	12,031	
Maintenance, depreciation, etc.	34,838	
Miscellaneous general expenses	88,022	
Miscellaneous recoveries	209	
		383,415

(ii) Income and Expenditure—	*Exotic* $	*Indigenous*	
Utilisation	287,986	52,976	
Establishment	100,539	127,744*Cr*	
Tending	39,023	2,740*Cr*	
Protection	68,124	3,159	
Maintenance of assets, etc.	231,497	87,299	
Personnel oncost	263	5	
	$727,432	$12,955	740,387

(iii) Developing forests—		
Establishment	312,996	
Tending	65,500	
Protection	50,118	
Maintenance and assets, etc.	187,026	
Personnel oncost	66	
Utilisation	10,120	
Sale of logs	15	
	625,841	625,841
		$1,749,643

7. *Personnel oncost*—Holiday pay and accident compensation levy for all personnel, and wet time and sick leave for wage workers.

8. *Forest assets*—Net expenditure on tree crop at historical values up to 31 December 1974, plus net costs of developing exotic forests since 1 January 1975.

9. *Buildings, roads, etc.*—

	Buildings	*Roads and Bridges*	*Plant and Vehicles*	*Other Assets*	*Total*
	$	$	$	$	$
Original cost at 31 December 1977 ...	25,482,377	36,670,883	22,067,822	8,990,226	93,211,308
Net additions and disposals	2,947,866	5,917,074	3,861,593	1,571,994	14,298,527
Original cost at 31 December 1978 ...	28,430,243	42,587,957	25,929,415	10,562,220	107,509,835
Depreciation—					
Accumulated at 31 December 1977 ...	5,576,251	179,023	10,687,325	362,185	16,804,784
Adjustment for year	658,140	27,628	1,504,823	43,702	2,234,293
Previous year's adjustment ...			2,011,683		2,011,683
Accumulated at 31 December 1978 ...	6,234,391	206,651	14,203,831	405,887	21,050,760
Net balance sheet values—					
At 31 December 1977	19,906,126	36,491,860	11,380,497	8,628,041	76,406,524
At 31 December 1978	22,195,852	42,381,306	11,725,584	10,156,333	86,459,075

The basis of original cost is stated in note 4 of the Statement of Accounting Policies. Previous year's depreciation adjustment includes $262,040 charged to capital assets.

10. *Creditors*—Includes $172,003 for deposits held on contracts.

(f) Statement of Accounting Policies

1. *Authority*—These accounts are published in accordance with section 16 of the Forests Act 1949 and are prepared on an historic cost basis.

2. *Classification of forests*—Up to 31 December 1974 the greater part of the exotic forest estate was regarded as being in the developmental stage for accounting purposes and net expenditure was capitalised. Since 1 January 1975 forests (and their expenditure and revenue) have been classified as follows:

(i) *Exotic production:* Forests which are producing wood from the greater part of the potential productive area of the forest.

(ii) *Indigenous production:* Indigenous forests being managed for the production of native timbers.

(iii) *Developing exotics:* Forests which are under development and are not producing wood from a significant part of the potential productive area of the forest.

(iv) *Other:* Expenditure within amenity and protection areas and on those functions of administrative units which are unrelated to the role of production forestry.

3. *Capital expenditure*—Capitalisation of expenditure on forest assets in exotic and indigenous production forests ceased with effect from 1 January 1975. From this date, in both groups, operational expenses have been related to earnings in the income and expenditure account, to show the year's surplus or deficit.

The year's costs of developing exotic forests are capitalised in the forest development account and included in the balance sheet as forest assets.

4. *Valuation of assets*—Purchased land is recorded at original cost. Other land is recorded at a nominal book value of $1.24 per hectare. Buildings, roads, plant, etc., are recorded at cost.

5. *Depreciation*—Buildings and bridges are depreciated on the straightline basis. No allowance is made for residual value. Other assets

are depreciated on the diminishing value basis. Depreciation rates are based on Treasury Instruction B26. These are:

Buildings	1 percent to 2½ percent according to construction on a straight line basis.
Bridges	2½ percent on straight line basis.
Fire equipment	10 percent on diminishing value.
Plant, vehicles, radio installations	20 percent on diminishing value.
Power saws	50 percent on diminishing value.

6. *Forestry encouragement loans*—The amount represents advances made less repayments. About half is repayable in terms of the Forestry Encouragement Loans Regulations 1967.

7. *Debtors*—These are recorded at expected realisable value.

8. *Valuation stocks and stores*—The criteria for stores valuation is weighted average cost. Stores have also been valued at the last recorded purchase price. No adjustment has been made to recognise holding gains where the last recorded purchase valuation formula has been used. Drums, partially manufactured stores, and forest produce are valued at the lower of cost or net realisable value.

Significant adjustments were made to the valuation procedure for stores in 1978. Physical stocks were confirmed during the year and reconciled to the financial records.

Stock Valuations—	$
Weighted average cost	1,944,897
Last recorded purchase price	1,293,638
Cost or net realisable value, whichever is lower ...	1,313,298
	$4,551,833

9. *Research*—Technical research is written off through the general administration account under technical investigations, research, etc., in the year in which expenditure is incurred.

APPENDIX 9

REPORT OF THE AUDIT OFFICE

The Audit Office, having been appointed in terms of section 25, Public Finance Act 1977 has audited the accounts of the New Zealand Forest Service Commercial Division.

The audit was conducted in accordance with generally accepted auditing standards and practices comprising such auditing procedures considered necessary in terms of section 25, Public Finance Act 1977 and included:

a review of accounting procedures and controls;

examination and tests of accounting records and other supporting information.

All the information and explanations required have been obtained.

In the opinion of the Audit Office, the attached financial statements fairly reflect, in accordance with applicable accounting principles, the financial position as at 31 December 1978 and the results of the financial operations for the year.

S. T. KEENE, Assistant Controller and Auditor-General.
30 May 1979.

New Zealand Forest Service Commercial Division Consolidated Accounts for the Year Ended 31 December 1978

(a) Operating Account

	Year Ended 31 December 1978		*Year Ended 31 December 1977*	
	$	$	*$*	*$*
Gross Value of Production		21,397,804		*18,351,180*
Less—				
Cost of logs (note 1)	5,592,634		*5,278,045*	
Manufacturing expenses (note 2)	8,341,781		*6,876,569*	
Selling distribution expenses (note 3)	4,216,251		*3,004,584*	
Administration financial expenses (note 4)	2,152,672		*2,030,979*	
		20,303,338		*17,190,177*
Operating profit		1,094,466		*1,161,003*
Less net expenditure on employee accommodation (note 5)		80,499		*62,242*
Profit before income tax		1,013,967		*1,098,761*
Income tax credit	255,685		...	
Income tax paid	...		*345,000*	
Provision for income tax	...		...	
		255,685		*345,000*
Profit for year		1,269,652		*753,761*
Adjustments relating to previous year (note 6)		440,064		*37,762(L)*
		$1,709,716		*$715,999*

(b) Profit and Loss Appropriation Account

	Year Ended 31 December 1978		*Year Ended 31 December 1977*	
	$	$	*$*	*$*
Net profit from operating account		1,709,716		*715,999*
Plus Profit on sale and disposal of assets				*8,719*
Less Loss on sale and disposal of assets		7,054		
Tax paid profit		1,702,662		*724,718*
Less—				
Appropriation to fire insurance reserve	...		*27,685*	
Proposed dividend	815,570		*621,149*	
		815,570		*648,834*
Retained profits		887,092		*75,884*
Plus balance 1 January		5,565,413		*5,489,529*
		$6,452,505		*$5,565,413*

(c) Balance Sheet

		Year Ended 31 December 1978		*Year Ended 31 December 1977*	
	$	$	$	$
Funds employed—					
Advances of Government funds			14,064,335		*9,299,900*
Accumulated profits			6,452,505		*5,565,413*
Represented by the following notional capital apportionment—					
Bank overdraft	3,036,466			*1,554,987*	
Term finance	5,826,791			*4,436,776*	
Accumulated Profits and reserves	5,826,792			*4,436,775*	
Share capital	5,826,791			*4,436,775*	
		20,516,840			*14,865,313*
Reserve for fire losses		550,000			*550,000*
		$21,066,840			*$15,415,313*
Current assets—					
Income tax credits	424,106				
Sundry debtors and prepayments (note 7)	5,021,122			*2,948,997*	
Stocks and stores (note 8)	9,303,726			*7,891,626*	
		14,748,954			*10,840,623*
Fixed assets at cost less depreciation (note 9)—					
Plant, equipment, and tools	5,212,000			*4,172,530*	
Buildings and land	2,217,517			*1,769,992*	
Houses and employee accommodation	401,265			*420,005*	
Furniture and fittings	38,255			*18,684*	
Other installations	1,239,174			*1,075,269*	
		9,108,211			*7,456,480*
		23,857,165			*18,297,103*
Less—					
Current liabilities	1,974,755			*2,260,641*	
Provision for dividend	815,570			*621,149*	
Provision for taxation	...			...	
		2,790,325			*2,881,790*
		$21,066,840			*$15,415,313*

The notes that follow form part of and are to be read in conjunction with these accounts.

G. M. O'NEILL, Director-General.

A. A. B. WEBBY, Director, Commercial Division.

(d) Notes on the Accounts

1. *Cost of logs*—Expenses of logs to mills and other roundwood extracted under contract to delivery point, after adjusting for opening and closing stock. Average cost of logs at point of purchase for all supplies, both clear fellings and thinnings, as follows:

	1978 $ per m^3	*1977 $ per m^3*
Waipa—		
Purchase of logs on stump	3.49	*3.32*
Purchase of logs on ride	10.90	*10.03*
Conical Hill—		
Purchase of logs at mill site	14.92	*12.72*

2. *Manufacturing expenses*—Expenses of manufacturing and processing into finished products in mill yard.

3. *Selling and distribution expenses*—Direct wages and salaries of staff and yard staff involved in preparing finished products for sale, together with all expenses from mill to point of sale.

4. *Administration and financial expenses*—Includes:

	1978 $	1977 $	1976 $
Interest Paid	377,802	389,655	295,021
Audit Fee	4,613	4,877	4,184

5. *Net expenditure on employee accommodation*—Excess of direct outgoings over actual rents, determined by agreement between the State Services Commission and the Combined State Services Organisation and the New Zealand Timber Workers' Union.

6. *Adjustments relating to previous years*—Includes:

	$	$
Refunds relating to 1977 income tax assessment—		
(a) Provisional tax assessed		405,000
(b) Tax credit increased exports... ...		168,421
Reassessment 1976 income tax		17,715
Chips—Contract price increase 1/4/77 to 31/12/77		10,493
Corsican pine ex Whaka 1977		7,241
		608,870
Less—		
Wages back pay 1977	137,821	
Contractors back pay 1977	6,316	
Pole contract overcharge 1977	18,617	
Log stocks 1/4/72 purchase from N.Z.F.S.	6,052	
		168,806
		$440,064

7. *Sundry debtors*—Is the net amount after deducting the following:

	1978 $	1977 $	1976 $
Provision for doubtful debts ...	114,000	114,000	114,000
Provision for discount	19,141	15,322	25,939

8. *Stocks and stores*—This item comprises:

	1978 $	1977 $	1976 $
Log and timber stocks	7,863,237	6,711,972	4,725,387
General stores	1,440,489	1,179,654	1,165,245

9. *Fixed assets*—Includes:

	Original Cost as at 31 December 1978 $	Cumulative Depreciation to 31 December 1978 $	Additions $	Deletions $
Plant, equipment, and tools ...	10,598,100	5,386,100	1,812,985	48,097
Buildings	3,073,339	855,822	522,678	22,211
Houses and employee accommodation	851,823	450,558	889	...
Furniture and fittings	64,843	26,588	19,979	...
Other installations	1,579,899	340,725	175,414	...
	$16,168,004	$7,059,793	$2,531,945	$70,308

Depreciation provided in 1978 was $859,861; in 1977, $862,210; in 1976 $571,340.

(e) Statement of Source and Application of Funds

	1978 $	*1977* $	*1976* $
Source of funds—			
Net funds from operations	2,569,577	1,575,524	1,364,740
Increase in advances from Government	4,764,435	566,872	3,194,546
Proceeds from sale of fixed assets	13,299	15,476	22,009
Increase in current liabilities	58,739	1,109,918	115,484
Increase in reserves	...	225	...
	$7,406,050	$3,268,015	$4,696,779
These funds were applied in—			
Acquisition of fixed assets	2,531,945	1,340,803	1,770,932
Increase in current assets	3,908,331	1,369,632	2,378,104
Decrease in current liabilities	344,625	...	3,197
Payment of dividend	621,149	557,580	433,922
Net funds to operations	...	...	110,624
	$7,406,050	$3,268,015	$4,696,779
Net funds from operations—			
Net profit from operating account	1,269,652	753,761	760,099
Depreciation	859,861	862,210	571,340
Appropriations to reserves	...	2,685*Dr*	...
Adjustments relating to previous years	440,064	37,762*Dr*	77,323*Dr*
Net funds to operations	...	...	110,624
	$2,569,577	$1,575,524	$1,364,740

(f) Highlights

	1978	*1977*	*1976*
Gross value of production ($000)	21,398	18,351	17,043
Production (m^3)	172 477	179 979	158 076
Total personnel employed	867	770	936
Total remuneration to employees ($000)	8,711	6,970	6,303
Tax paid profit ($)	1,702,662	762,480	762,507
Proposed dividend ($)	815,570	621,149	557,580
Retained profits ($)	887,092	113,646	179,927
Percentage of profits retained	52	15	24
Total assets ($000)	23,857	18,297	16,456
Working capital ($000)	8,922	6,404	5,488
Total funds employed ($000)	21,067	15,415	14,747

(g) Statistics

	1978	*1977*	*1976*
Dividend rate (percent)	14	14	14
Number of times covered by profit	2.09	1.2	1.4
Tax paid profit to—			
(a) Shareholders funds (percent)	14.61	8.59	9.57
(b) Gross sales (percent)	7.96	4.15	4.47
(c) Share capital (percent)	29.22	17.18	19.15
(d) Total funds employed (percent)	8.08	4.95	5.17
Current assets to—			
(a) Current liabilities	2.5:1	2.4:1	2.4:1
(b) Stock	1.6:1	1.4:1	1.6:1

(h) Statement of Accounting Policies

The general accounting principles appropriate for measurement and reporting of profit and loss under the historical cost method as recommended by the New Zealand Society of Accountants Statement of Standing Accounting Practice No. 1 have been adopted.

The following particular accounting principles which materially affect the measurement of profit and financial position have been applied.

1. *Basis of consolidation*—The accounts of Conical Hill Sawmill have been consolidated with those of Waipa Sawmill. All significant inter-mill transactions have been eliminated.

2. *Notional capital*—The operating accounts and balance sheet of the Commercial Division conform with the accounts of a public company except that in the balance sheet a notional capital structure is shown.

The notional capital is necessary because Commercial Division expenditure is funded from the public account and all revenue earned is credited to the public account. This approach permits a comparison of the results achieved by the Commercial Division with those of other companies in the timber industry.

The notional capital apportionment is based on Reserve Bank statistics applying to a group of companies engaged in business similar to that of the Commercial Division. Currently this allows the following apportionment of the items, advances of Government funds, and accumulated profits:

25 percent: Bank overdraft with the proviso that actual current liabilities are deducted.
25 percent: Term finance.
25 percent: Accumulated profits and reserves.
25 percent: Share capital.

3. *Fixed assets and depreciation*—Depreciation of fixed assets has been based on rates and bases allowed by the Inland Revenue Department in accordance with Treasury Instruction B26. In the case of major assets this represents:

(a) Machinery on diminishing value of assets at 15 percent per annum.
(b) Mobile plant on diminishing value of assets at 20 percent per annum.
(c) Buildings depreciated on straight line basis at 2½ percent per annum of original cost.

There are other minor assets attracting depreciation rates varying from 5 percent to 50 percent on the diminishing value of the assets.

4. *Inventory valuation*—The following methods have been used for the valuation of inventories: in each case valuations are at the lower of cost or net realisable value:

(a) Log stocks: Cost landed at gantry $178,362.
(b) Sawn timber and manufactured timber products: Cost of production including all direct and indirect cost of operating the mills and expenses of Commercial Division, Head Office in Rotorua $5,609,188.
(c) Roundwood—
  (i) Waipa—market value at point of sale $1,051,682.
  (ii) Conical Hill—Cost of production $238,998.
(d) Retail timber stocks: At wholesale purchase price $619,207.
(e) Stores: At cost into stores $1,440,489.
(f) Wood Chips: Market price at point of sale $165,800.

5. *Provision for doubtful debts*—An allowance on accounts receivable based on past experience is made in respect of doubtful accounts. Bad debts have been charged to profit and loss.

6. *Repairs and maintenance*—Expenditure for maintenance, repairs, and replacements is charged to expense. Expenditure for modification and betterment of the relevant asset which materially increases the value of that asset has been capitalised.

7. *Income tax*—Provision is made for company taxation on income after taking advantage of all concessions, including export market development, export incentive, and regional and investment allowances. Increased export sales in 1978 resulted in a tax credit.

8. *Foreign currencies*—Foreign currency transactions are converted to New Zealand currency at the rate of exchange ruling on the date of the transaction.

9. *Changes to format of accounts*—To comply with the New Zealand Society of Accountants' Statement of Standard Accounting Practice No. 7, 'Adjustments relating to previous years' are now incorporated in the Operating Account. Comparative figures for 1977 are shown in the Operating Account and Profit and Loss Appropriation Account in the new format. Highlights (statement *f*) details the financial results for 1977 and 1976 under the old format.

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